CLAIMS

What is claimed is:

1.   (Currently Amended) A method for crankback handling in a multi-peer group network, comprising:

receiving a first connection request from a node of a first peer group;

detecting a call <u>failure, the detected call failure occurring at a location inside a second</u> <u>different peer group, the detected call failure occurring between nodes</u> within <u>the</u> a second peer group;

transmitting a <u>succeeding end</u> crankback <u>rather than a next higher level crankback</u> from the second peer group to the first peer group, wherein the <u>succeeding end</u> crankback specifies a blocked interface at a first link between the first peer group and the second peer group, <u>wherein</u> <u>the first link is located outside the first peer group and located outside of the second peer group,</u> <u>and wherein</u> the crankback <u>is</u> transmitted from a node of the second peer group; and

receiving a second connection request from the node of the first peer group, the second connection request using a second link to the second peer group that avoids the call failure.

2.   (Original) The method of claim 1 wherein the first peer group is a preceding peer group and the second peer group is a succeeding peer group.

3.   (Original) The method of claim 1 wherein the node of the second peer group is an entry border node configured to receive connection requests for the second peer group.

4.   (Original) The method of claim 1 wherein the blocked interface is specified between an originating node in the first peer group and an entry border node in the second peer group.

5.   (Original) The method of claim 4 wherein the blocked interface causes the originating node to use an alternate exit border node node within the first peer group to implement the second link to the second peer group.

6.   (Original) The method of claim 1 wherein the network is an ATM (asynchronous transfer mode) network.

7.   (Original) The method of claim 6 wherein the node of the second peer group is configured to use a DTL (Designated Transit List) to discover the first connection request was transmitted from the first peer group.

8.   (Currently Amended) The method of claim 1 further comprising:

transmitting a list from the node in the second peer group to the node in the first peer group, the list specifying nodes in the first peer group that have connectivity with the node in the second peer group; and

using the information in the list to transmit the second connection request to ensure the second link avoids the call failure.

9. (Currently Amended) A packet switch for crankback handling in a multi-peer group network comprising:

means for receiving a first connection request from a node of a first peer group;

means for detecting a call failure ~~within~~ inside a second peer group; and

means for transmitting a succeeding end crankback rather than a next higher level crankback from the second peer group to the first peer group, wherein the succeeding end crankback specifies a blocked interface at a first link between the first peer group and the second peer group, wherein the first link is outside the first peer group and outside of the second peer group and wherein the succeeding end crankback ~~causing~~ causes the node of the first peer group to send a second connection request ~~from the node of the first peer group~~, the second connection request using a second link to the second peer group that avoids the call failure.

10.   (Original) The packet switch of claim 9 wherein the first peer group is a preceding peer group and the second peer group is a succeeding peer group.

11.   (Original) The packet switch of claim 9 wherein the packet switch is an entry border node configured to receive connection requests for the second peer group.

12.   (Original) The packet switch of claim 9 wherein the blocked interface is specified between an originating node in the first peer group and the packet switch in the second peer group.

13.   (Original) The packet switch of claim 12 wherein the blocked interface causes the originating node to use an alternate exit border node node within the first peer group to implement the second link to the second peer group.

14.   (Original) The packet switch of claim 9 wherein the packet switch is an ATM switch.

15.   (Original) The packet switch of claim 14 the ATM switch is configured to use a DTL (Designated Transit List) to discover the first connection request was transmitted from the first peer group.

16.   (Original) The packet switch of claim 14 wherein the packet switch is compatible with a version of a PNNI (private network to network interface) standard.

17.   (Original) The packet switch of claim 9 further comprising:
transmitting a list to the node in the first peer group, the list specifying nodes in the first peer group that have connectivity with the packet switch, wherein the node uses the list to ensure the second link avoids the call failure.

18-25. (Canceled)

26. (New) A switch in a multi-peer group network operable to:
receive a first connection request from a node of a preceding peer group on a first link wherein the connection request on the first link connects the preceding peer group and a

succeeding peer group and wherein the first link is outside the preceding peer group and the succeeding peer group;

detect a call failure inside a succeeding peer group;

identify a second link between the preceding peer group and the succeeding peer group; and

transmit a crankback from the succeeding peer group to the preceding peer group, wherein the crankback specifies the first link as blocked at a succeeding end and wherein the crankback causes a second connection request from a node of the preceding peer group, the second connection request using the second link to the succeeding peer group that avoids the call failure.

27.   (New) The switch of claim 26 wherein the crankback is a succeeding end crankback and wherein the succeeding end crankback is transmitted rather than a next higher level crankback.

28.   (New) The switch of claim 26 wherein the first link is specified between an originating node in the preceding peer group and the switch in the succeeding peer group.

29.   (New) The switch of claim 28 wherein the second link uses a different node of the preceding peer group to implement the second link to the succeeding peer group than the node of the preceding peer group used to implement the first link.

30.   (New) The switch of claim 26 wherein the switch comprises an ATM switch.

31.   (New) The switch of claim 30 wherein the ATM switch is operable to use a Designated Transit List (DTL) to discover the first connection request was transmitted from the preceding peer group.

32.   (New) The switch of claim 30 wherein the switch is compatible with a version of a PNNI (private network to network interface) standard.

33.   (New) The switch of claim 26 further comprising:

transmitting a list to a node in the preceding peer group, the list specifying nodes in the preceding peer group that have connectivity with the switch, wherein the node uses the list to ensure the second link avoids the call failure.

34.   (New) The switch of claim 33 wherein the list is transported in a Generic Application Transport Information Element (GAT IE) using an organization specific application type.

35.   (New) The switch of claim 34 wherein the organization specific application type comprises a Cisco Organization Unique Identifier.

36. (New) A switch in a multi-peer group network operable to:

send a first connection request from a preceding peer group on a first link wherein the connection request on the first link connects the preceding peer group and a succeeding peer group and wherein the first link is outside the preceding peer group and the succeeding peer group;

receive:

a crankback from the succeeding peer group, wherein the crankback specifies the first link as blocked at a succeeding end if there is a call failure inside the succeeding peer group; and

a list specifying nodes in the preceding peer group that have connectivity with the succeeding peer group; and

select an alternate switch of the preceding peer group based at least in part on the list; and

forward the crankback to the alternate switch wherein the alternate switch is operable to send a second connection request to a node of the succeeding peer group, the second connection request using a second link to the succeeding peer group that avoids the call failure.

37.   (New) The switch of claim 36 wherein the list is received in a Generic Application Transport Information Element (GAT IE) using an organization specific application type.

38.   (New) The switch of claim 37 wherein the organization specific application type comprises a Cisco Organization Unique Identifier.